

COVERED SOURCE PERMIT REVIEW - 0072-01-C

Application for Modification No. 0072-05

Equilon Enterprises, LLC - Hilo Terminal

5 Internal Floating Roof Storage Tanks & Tank Truck Load Rack

Facility: Equilon Enterprises LLC
Hilo Distribution Terminal
661 Kalanianaʻole Avenue, Hilo, Hawaii

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Background:

Equilon Enterprises LLC owns and operates a gasoline distribution facility in Hilo located at 661 Kalanianaʻole Avenue. The Hilo Distribution Plant has three fixed roof storage tanks, four internal floating roof petroleum storage tanks and one tank truck load rack.

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Proposed Modification:

Of the seven above ground storage tanks, three of the tanks, tank nos. 3, 4, and 5, are currently exempt from permitting due to the low vapor pressure of the liquids being stored; tank no. 3 stores fuel oil #2 and tank nos. 4 and 5 store contact water. Equilon is proposing to install an internal floating roof on tank no. 4 and use it to store ethanol. Tank no. 4 is a fixed roof storage tank that was built prior to the promulgation of the NSPS storage tank regulations. It was capable of storing gasoline at the time it was constructed. The installation of an internal floating roof on tank no. 4 is not considered a modification, as defined in 40 CFR §60.14, because the internal floating roof is considered an air pollution control device and any addition or use of an air pollution control device is not considered a modification under 40 CFR §60.14. The switch from storing contact water to ethanol is also not considered a modification because the tank was designed to store gasoline. As such, the proposed addition of an internal floating roof and the switch in product storage does not trigger NSPS Subpart Kb regulations.

Equilon is also proposed piping changes at the tank truck load rack. The existing piping is adequate to transfer the product to the tank truck load rack, but additional piping is necessary to blend the ethanol with the gasoline at the load rack. The piping changes are minimal and do not affect the fugitive emissions of the tank truck load rack.

Equipment:

The only equipment subject to review under this modification is:
Tank no. 4 - 5,500 barrel internal floating roof tank.

Air Pollution Controls:

VOC emissions from the storage tank are controlled by the internal floating roof with a vapor mounted primary seal and a rim mounted secondary seal.

Operational Limits:

Equilon has not proposed a throughput limit on tank no. 4. The facility has a throughput limit for the tank truck loading rack.

Applicable Requirements:

Hawaii Administrative Rules (HAR)

Chapter 11-59, Ambient Air Quality Standards

Chapter 11-60.1

Subchapter 1, General Requirements

Subchapter 2, General Prohibitions

11-60.1-31 Applicability

11-60.1-39 Storage of Volatile Organic Compounds

Subchapter 5, Covered Sources

Subchapter 6, Fees for Covered Sources, Noncovered Sources, and Agricultural
Burning

11-60.1-111 Definitions

11-60.1-112 General Fee Provisions for Covered Sources

11-60.1-113 Application Fees for Covered Sources

11-60.1-114 Annual Fees for Covered Sources

11-60.1-115 Basis of Annual Fees for Covered Sources

Non-Applicable Requirements:

BACT:

A Best Available Control Technology (BACT) analysis is required for new or modified emission units if the net increase in pollutant emissions exceeds significant levels as defined in HAR §11-60.1-1. The changing of the stored product and the addition of the internal floating roof increases emissions of VOC. However, the estimated emissions increase is below the significant level for BACT review.

CAM:

The purpose of Compliance Assurance Monitoring (CAM) is to provide a reasonable assurance that compliance is being achieved with large emissions units that rely on air pollution control device equipment to meet an emissions limit or standard. Pursuant to 40 Code of Federal Regulations, Part 64, for CAM to be applicable, the emissions unit must: (1) be located at a major source; (2) be subject to an emissions limit or standard; (3) use a control device to achieve compliance; (4) have potential pre-control emissions that are 100% of the major source level; and (5) not otherwise be exempt from CAM. In the current permit, CAM is not applicable because the units do not use a control device to achieve compliance. The proposed modification does not change this determination.

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CERR (Consolidated Emission Reporting Rule):

40 CFR part 51, Subpart A – Emission Inventory Reporting Requirements, determines the annual emissions reporting frequency based on the actual emissions of each pollutant from any individual emission point within the facility that emits at or above the triggering levels. Since the sources at this facility are area sources, CERR does not apply.

The Department does however require facilities to report their annual emissions if the facility-wide emissions exceed the Department's trigger levels. The Department's trigger level for VOCs is 25 tons per year. Since the facility has the potential to emit more than 25 tons per year VOC, they must report their annual emissions to the Department.

NESHAP/MACT:

40 CFR Part 63, Subpart R - National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Facilities - is not currently applicable to the facility because the facility is not a major source of HAPs. The proposed modification does not change this determination.

NSPS:

40 CFR Part 60, New Source Performance Standards (NSPS) Subparts K, Ka, and Kb - Standards of Performance for Storage Vessels for Petroleum Liquids - are currently not applicable to the facility because the construction dates are before the subparts were promulgated. The addition of an internal floating roof to tank no. 4 does not trigger a modification because the internal floating roof is considered an air pollution control device. The addition and/or use of an air pollution control device is not considered a modification for NSPS applicability. Further, tank no. 4 will not trigger NSPS applicability when the product stored is switched from contact water to ethanol because the tank was capable of storing gasoline when it was constructed. Additionally, the cost to modify tank no. 4 is less than 50 percent of building a new internal floating roof tank.

40 CFR Part 60, New Source Performance Standards (NSPS) Subpart XX - Standards of Performance for Bulk Gasoline Terminals - is currently not applicable because of the construction date of the tank truck load rack. The piping changes at the load rack to allow blending of ethanol and gasoline are minor and do not meet the cost criteria for reconstruction under NSPS. Also, the proposed modification does not affect the operation at the load rack. As such, this determination remains unchanged.

PSD:

Prevention of Significant Deterioration is not applicable to any of the emission units. The

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emissions increase from the proposed modification is not significant. Thus, a PSD review is not required.

Synthetic minor:

A synthetic minor is a facility that without limiting conditions, physical or operational, emits above the major source triggering levels as defined by HAR 11-60.1-1 for either criteria pollutant(s) or hazardous air pollutant(s). This facility is a major source and thus, is not a synthetic minor.

Calculations:

Emission factors for tank no. 4 were taken from AP-42, section 7.1, revised 9/97. The emissions were estimated assuming that tank no. 4 stored gasoline. Since gasoline has a higher vapor pressure than ethanol, the emission estimate will be conservative. The throughput and tank turn over quantities used to calculate the emissions are based on the throughput of the tank truck load rack. The analysis assumed only tank no. 4 was in service with a throughput, 1,476,190 barrels. It is not expected the facility will operate at this level as usually only one tank is removed from service at a time. As such, the emission estimate is conservative for tank no. 4. VOC emissions were estimated at 3.1 tons per year and the total HAPs from tank no. 4 were estimated at 0.04 tons per year.

Total emissions from the facility, including this modification, were estimated at 234 tons per year of VOC.

Alternate Operating Scenarios:

The applicant did not list any alternate operating scenarios.

Insignificant Activities:

The applicant identified the following insignificant activities in a previous application. No new insignificant activities were proposed for this modification.

one 2.8 million barrel fixed roof tank, tank no. 3, storing diesel fuel no. 2;

one 2.4 million barrel fixed roof tank, tank no. 5, storing contact water;

one 143 barrel horizontal tank, tank no. 9A, storing slop;

one 13 barrel tote tank, tank no. 10, storing additive;

one 13 barrel tote tank, tank 11, storing slop; and

one CPI oil water separator.

Air Quality Assessment:

The facility is an area source for VOCs. As such, an air quality assessment is not required.

Conclusion/Recommendation:

The proposed modification will slightly increase the VOC emissions from the facility. The Equilon Hilo Terminal is currently operating within compliance with its' current operating permit. The additional recordkeeping requirements should not be a burden and given the operating history, Equilon should be able to comply with the new conditions for tank no. 4.

Issue permit with the proposed throughput limits on the load rack.